

Elementary Statistics (1)

Sheet 1

Choose the correct answer

1. Manuel Banales, Marketing Director of Plano Power Plants is leading a study to identify and assess the relative importance of product features. Manuel directs his staff to design a survey questionnaire to all of Plano's 954 customers. For this study, the set of 954 customers is a _____.
- a. statistic
 - b. population
 - c. parameter
 - d. sample

and in this case we say that Manuel is ordering a _____.

- a. statistic from the customers
 - b. census of the customers
 - c. sample of the customers
 - d. sorting of the customers
2. Manuel Banales, Marketing Director of Plano Power Plants, Inc.'s Electrical Division, is leading a study to identify and assess the relative importance of product features. Manuel directs his staff to design a survey questionnaire for 100 of Plano's 954 customers. For this study, the set of 100 customers is a _____
- a. statistic
 - b. population
 - c. parameter
 - d. sample

and in this case we can say that Manuel is ordering a _____.

- a. statistic from the customers
 - b. census of the customers
 - c. sorting of the customers
 - d. sample of the customers
3. How should you classify data from the following question: What is your favorite vacation place?
- a. qualitative b. quantitative – discrete c. quantitative – continuous
4. How should you classify data from the following: What are the names of colleges you have attended?
- a. quantitative - continuous
 - b. quantitative - discrete
 - c. qualitative

5. How should you classify data from the following? What is the number of times during the summer that you go to the beach?.
- qualitative
 - quantitative - continuous
 - quantitative - discrete
6. How should you classify data from the following: What is your weight?
- quantitative - continuous
 - quantitative - discrete
 - qualitative
7. Abel Alonzo, Director of Human Resources, is exploring the causes of employee absenteeism at Batesville Bottling during the last operating year (January 1, 1999 through December 31, 1999). The average number of absences per employee, computed from the personnel data of all employees, is a _____.
- population
 - sample
 - parameter
 - statistic
8. Pinky Bauer, Chief Financial Officer of Harrison Haulers suspect irregularities in the payroll system, and orders an inspection of "every tenth payroll voucher issued since January 1, 1999 and a calculation of the percentage of irregular vouches in this group." The percentage which Pinky ordered is a _____.
- sample statistic
 - sample parameter
 - sorted order
 - population parameter
9. Abel Alonzo, Director of Human Resources, is exploring the causes of employee absenteeism at Batesville Bottling during the last operating year (January 1, 1999 through December 31, 1999). Personnel records of 50 employees are selected for analysis. (The plant employs 250.) For this study, the average number days absent for these 50 employees is a _____.
- population
 - sample
 - parameter
 - statistic

10. Which scale of measurement has these two properties: linear distance is meaningful and the zero doesn't mean the absence of the phenomena.
- interval level
 - ordinal level
 - nominal level
 - ratio level
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12. The ranking of four machines in your plant after they have been designed as excellent, good, satisfactory and poor. This is an example of _____.
- nominal level data
 - ordinal level data
 - interval level data
 - ratio level data
13. The place of birth for the students in a specific school is an example of _____.
- nominal level data
 - ordinal level data
 - interval level data
 - ratio level data
14. Categorizing presidential candidates as Republican, Democrat, or Independent is an example of measurement on the _____ scale.
- Nominal
 - ordinal
 - interval
 - ratio
15. The social security number of employees would be an example of what level of data measurement?
16. Joan is studying the content of children's television shows. She counts the number of times a violent act is displayed and the duration of each violent scene. The first variable is best represented as a _____ variable, the second is best represented as a _____ variable.
- continuous; discrete
 - discrete; nominal
 - nominal; continuous
 - discrete; continuous

17. A student makes an 82 on the first test in a statistics course. From this, she assumes that her average at the end of the semester (after other tests) will be about 82. This is an example of _____.
- a. descriptive statistics
 - b. inferential statistics
 - c. nonparametric statistics
 - d. wishful thinking
18. A statistics instructor collects information about the background of his students. About 30% have taken economics and about 40% have taken accounting. There are 23 male students and 27 female students in this class. This is an example of
- a. descriptive statistics
 - b. inferential statistics
 - c. nonparametric statistics
 - d. nominal data.
19. A subset of the population selected to help make inferences on a population is
- a. a population.
 - b. inferential statistics.
 - c. a sample

Answer the following questions

1- Are the following nominal, ordinal, interval, or ratio data?

- a- The students were asked whether the Economics midterm exam was very difficult , difficult, easy, or very easy and these alternatives are coded 1,2,3,&4
- b- The religion of patients in a hospital are recoded as 1,2,3,4 representing, Muslim, protestant, catholic, Jewish.
- c- The number of courses students at a certain school are taking this year.
- d- Social security numbers.
- e- Academic rank of faculty members coded as 1,2,3,or 4 depending on whether they are professors, associate professors, assistant professors or instructors.

2- Are the following inferential or descriptive statistics?

When the department of labor uses the average income of a sample of several thousand workers to estimate the average income of all 121 million workers.

3-If the incomes of all 121 million workers in the US are of interest to an analyst, then:

- a-All the 121 million workers constitute the
- b-Average income of all 121 million workers in the US is a
- c-A group of 10000 workers selected from the 121 million workers is called a
- d-The average income of those 10000 workers is a

4- 15 students were asked about their colleges and the results as follows:

Art	commerce	law
Law	medicine	medicine
Law	engineering	engineering
Commerce	commerce	science
Art	medicine	Commerce

- a. Construct the frequency table
 - b. Compute the relative frequencies
 - c. What is the percentage of the students who enrolled in the faculty of commerce?
 - d. What is the ratio of the students in the scientific colleges?
 - e. Find the ratio of the students in the faculty of medicine corresponding to the scientific colleges.
5. For the following data construct a frequency distribution with six classes, determine the class midpoint and the relative frequency.

57 23 35 18 21
 26 51 47 29 21
 46 43 29 23 39
 50 41 19 36 28
 31 42 52 29 18
 28 46 33 28 20

6. The owner of a fast food restaurant ascertains the ages of a sample of customers. From these data, the owner constructs the frequency distribution shown. For each class interval of the frequency distribution, determine the class midpoint, the relative frequency.

Class interval	Frequency
0-	6
5-	8
10-	17
15-	23
20-	18
25-	10
30-35	4

What does the relative frequency tell the fast food restaurant owner about customer ages?